

## CLAIMS

1. A method for transmitting voice and data traffic in a wireless  
2 communication system, comprising:

- generating a first preamble channel, wherein the first preamble channel  
4 carries information as to a preamble length;

- generating a second preamble channel, wherein the second preamble  
6 channel carries a plurality of preamble packets and the length of each of the  
plurality of preamble packets is carried on the first preamble channel; and

- 8 generating a traffic channel, wherein the plurality of preamble packets  
carried on the second preamble channel are each associated with a packet  
10 carried on the traffic channel.

2. The method of Claim 1, wherein the information as to the preamble  
2 length is carried by a two-bit payload.

3. The method of Claim 1, wherein the information as to the preamble  
2 length is carried by a one-bit payload.

4. A method for generating a preamble that is not concatenated to a data  
2 subpacket on a traffic channel, comprising:

- generating a preamble for transmission on a first non-traffic channel;  
4 and

generating a preamble length value for transmission on a second non-traffic channel, wherein the preamble length value is associated with the preamble transmitted on the first non-traffic channel.

5. The method of Claim 4, wherein the preamble length value is represented by two bits.

6. The method of Claim 4, wherein the preamble length value is represented by one bit.

7. An apparatus for generating a preamble information channel within a wireless communication system, wherein the preamble information channel informs a target station of a length of a preamble transmitted on a separate channel, comprising:

a block encoder configured to receive a symbol and to output a plurality of symbols;

a repetition element configured to receive the plurality of symbols from the block encoder and to output a sequence, wherein the sequence comprises a repeated pattern of the plurality of symbols;

a modulation element configured to receive the sequence and to output an in-phase component and a quadrature component; and

a Walsh covering element for spreading the in-phase component and the quadrature component.

8. The apparatus of Claim 7, wherein the symbol comprises two bits.

9. The apparatus of Claim 8, wherein the block encoder outputs three  
2 code symbols for the two-bit symbol.
10. The apparatus of Claim 7, wherein the modulation element performs  
2 quadrature phase-shift keying (QPSK) modulation.
11. The apparatus of Claim 7, wherein the Walsh covering element uses a  
2 256-ary Walsh code.
12. An apparatus for generating a preamble information channel within a  
2 wireless communication system, wherein the preamble information channel  
informs a target station of a length of a preamble transmitted on a separate  
4 channel, comprising:  
a mapping element configured to receive one bit and to output +1, -1,  
6 or 0 accordingly;  
a repetition element configured to repeat the output of the mapping  
8 element to form a sequence; and  
a Walsh covering element for spreading the sequence.
13. An apparatus for generating a preamble for transmission on a channel  
2 that does not carry traffic, comprising:  
a convolutional encoder configured to convolve a preamble sequence;  
4 a repetition element configured to receive the convolved preamble  
sequence and to output a repeated sequence;

- 6 a modulation element configured to modulate the repeated sequence;  
and  
8 a Walsh covering element for spreading the modulated sequence.

14. The apparatus of Claim 13, wherein the convolutional encoder is a tail-  
2 biting convolutional encoder.

15. The apparatus of Claim 13, wherein the modulation element performs  
2 quadrature phase shift-keying (QPSK) modulation.

16. The apparatus of Claim 13, wherein the Walsh covering element uses  
2 a 128-ary Walsh code.

17. An apparatus for transmitting voice and data payloads in a wireless  
2 communication system, comprising:

means for generating a first preamble channel, wherein the first  
4 preamble channel carries information as to a preamble length;

means for generating a second preamble channel, wherein the second  
6 preamble channel carries a plurality of preamble packets and the length of  
each of the plurality of preamble packets is carried on the first preamble  
8 channel; and

means for generating a traffic channel, wherein the plurality of  
10 preamble packets carried on the second preamble channel are each  
associated with a packet carried on the traffic channel.

18. An apparatus for transmitting voice and data payloads in a wireless  
2 communication system, comprising:  
a memory element; and  
4 a processing element coupled to the memory element and configured  
to execute an instruction set stored in the memory element, the instructions  
6 for:  
generating a preamble for transmission on a first non-traffic  
8 channel; and  
generating a preamble length value for transmission on a  
10 second non-traffic channel, wherein the preamble length value is  
associated with the preamble transmitted on the first non-traffic  
12 channel.